GARY R. HERBERT
Governor
GREG BELL
Lieutenant Governor

State of Utah
DEPARTMENT OF NATURAL RESOURCES
MICHAEL R. STYLER
Executive Director
Division of Water Rights
KENT L. JONES
State Engineer/Division Director

February 19, 2013

RE: Stream Channel Alteration No. 13-59-01SA
Rose Creek
Salt Lake County Public Works

Attached is a copy of an application to alter a natural stream, which has been submitted to the Division of Water Rights (Division) for processing.

In processing this application, the Division will work to determine if the project will:

- Unreasonably or unnecessarily affect any recreational use or the natural stream environment;
- Unreasonably or unnecessarily endanger aquatic wildlife;
- Unreasonably or unnecessarily diminish the natural channel's ability to convey high flows; or
- Impair vested water rights.

Any decision made regarding this application will be based exclusively on these four criteria. If you have information regarding these four criteria that will aid the Division in making a determination and subsequent decision, please submit this information, in writing, to this office prior to **March 11, 2013**. For questions or comments pertaining to all other aspects of the project, please contact the applicant listed on the front page of the application directly.

Sincerely,

Tiffany Gonzales
for Chuck Williamson, P.G.
Stream Alteration Specialist

Pc: Richard Clark - EPA
Corps of Engineers
Supervisor - U. S. Fish & Wildlife
Teresa Wilhelmsen - Regional Engineer
Mark Farmer - Regional Wildlife Habitat Manager
Carmen Bailey - Aquatic Habitat Coordinator
Bill Damery - DEQ, Water Quality Division
Laura Ault - Forestry Fire & State Lands
Kelly Beck - RDCC Coordinator
State Parks & Recreation
Lori Hunsaker - State History
W. D. Robinson - Department of Agriculture
Judy Watanabe - CEM
Chris Springer - Salt Lake County

1594 West North Temple, Suite 220, PO Box 146300, Salt Lake City, UT 84114-6300
telephone (801) 538-7240 • facsimile (801) 538-7467 • TTY (801) 538-7458 • *www.waterrights.utah.gov*

UTAH DNR WATER RIGHTS

Rec. by CHW
Fee Rec. 13-00558
Receipt # $500

JOINT PERMIT APPLICATION FORM

U.S ARMY CORPS OF ENGINEERS – FOR SECTIONS 404 AND 10
UTAH STATE ENGINEER'S OFFICE – FOR NATURAL STREAM CHANNELS

Application Number (assigned by): _____ / 13-59-01SA
Corps / State Engineer

Applicant's Name (Last, First M.I. or entity if not an individual)	Authorized Applicant Representative (if any)	Applicant's Telephone Number and Area Code
Salt Lake County Public Works	Rich Judson	385-468-6578
		Representative's Telephone Number and Area Code 801-971-2143

Applicant's Address (Street, RFD, Box, Number, City, State, Zip)
Salt Lake County Public Works Department
Flood Control Engineering Division
2001 South State Street, Suite N3100
Post Office Box 144575
Salt Lake City, Utah 84114-4575

X: 410534.39 **PROJECT LOCATION** Y: 4482710.12

Quarter Section(s)	Section	Township	Range	Base & Meridian
NENW Sites 1 & 2 - SW 1/4	#1-Sec 10 ~~03~~, #2-Sec 02	T4S	R2W	Salt Lake

County	Associated Watercourse or Watercourse to be Altered	Check one: ■ Within City Limits ☐ Outside City Limits List town or nearest town:
Salt Lake County	Rose Canyon Creek	Herriman City

Project location or address:
#1 - 6939 W Rose Canyon Road, #2 - 6212 W Butterfield Parkway

Brief description of project including methods and equipment to be employed to complete the work:
Repair riprap banks and aprons of culvert outlets at two locations along Rose Canyon Creek within Herriman City using mini-excavator, native in situ rock, and imported angular rock conforming to Class IV, 15"D50 of SL County Specification 31 37 00 as needed to restore bank & bed protection.
Site 1 - Latitude: 40.492102 deg N; Longitude: 112.056480 deg W
Site 2 - Latitude: 40.496560 deg N; Longitude: 112.043088 deg W

Purpose (justification) of project:
Stream channel at these locations have been excavated using heavy equipment without appropriate Federal, State or County Permits.

Is this a single and complete project or is part of a larger project, continuing project, or other related activities? If so, please describe the larger project or other related activities.
Single Project.

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FEB 12 2013
WATER RIGHTS
SALT LAKE

If project included the discharge of dredged or fill material into a watercourse or wetland:

Cubic yards of material:	194.5 cu yd
Acreage or square footage of waters of the United States affected by the project:	3,500 sf
Source and type of fill material:	Native in situ rock with Class IV, 15"D50 imported rock as needed.
Length of stream that will be impacted below ordinary high water elevation:	Not more than 100 ft at either site.

Alternatives (other ways to accomplish project purpose):

1. Do nothing - Continued bank erosion and potential for eventual roadway failures.
2. Bioengineering - Not cost effective due to availability of irrigation sources & soil chemistry.

Describe any proposed mitigation to offset impacts to the stream channel.

Proposed Mitigation is the repair of bank and bed Riprap Armor and Toe Protection as needed.

Cultural resource impacts:

Are you aware of any cultural resources or any historic properties that will be impacted by the proposed project? ☐ Yes ☒ No
If Yes, please explain:

Has a cultural resource survey been conducted on the property where the proposed project is to occur? ☐ Yes ☒ No
If Yes, please briefly explain the survey results:

NA

List other authorizations required by Federal, state, or local governments (i.e.: National Flood Insurance Program), and the status of those authorizations.

None known at this time.

Estimated starting date of project:	Estimated completion date:
02/20/2013	02/28/2013

Please complete the following checklist

Failure to indicate that all pertinent information has been submitted will result in your application being returned.

- ❑ Appropriate application processing fee payment (see fee schedule below).
- ❑ A clear site location map with enough detail to easily find the site, a recent aerial/satellite image of the site, and a USGS topography map (7.5 minute quadrangle map is recommended).
- ❑ Plan view and cross-sectional drawings showing all work requiring a permit, including fills, structures, borrow sites, staging areas and storage areas. The drawings must clearly demarcate the ordinary high water mark of the waters of the U.S. to be impacted. Professional drawings are not required; however, drawings must be scaled or indicate dimensions of the work to be completed.
- ❑ A restoration plan for any areas temporarily disturbed during work, including re-contouring, revegetation with appropriate native plants and maintenance and monitoring to ensure success for the restored area.
- ❑ Ground photographs taken from various locations of the proposed disturbance area.
- ❑ Please check the box if the proposed project involves bank stabilization or protection. If so, please complete the following:
  - ❑ A narrative demonstrating the proposed activity incorporates the least damaging bank protection methods. These methods include, but are not limited to, the use of bioengineering, biotechnical design, root wads, large woody debris, native plantings, and beach nourishment in certain circumstances. If rock must be used due to site erosion conditions, explain how the bank stabilization structure incorporates elements beneficial to aquatic organisms.

- ❑ A description of current and expected post-activity sediment movement and deposition patterns in and near the activity area.
- ❑ A description of current and expected post-activity habitat conditions, including the presence of fish, wildlife and plant species in the activity area.
- ❑ An assessment of the likely impact the work would have on upstream, downstream and cross-stream properties (at a minimum the area assessed should extend from the nearest upstream bend to the nearest downstream bend of the watercourse). Specifically, discuss how the project will impact the following:
  Will the activity accelerate deposition or erosion?
  Will impacts to sensitive species or habitats result from a change in suspended sediment load or turbidity?
  Will the activity affect the diversity of the channel by eliminating in-stream habitat, meanders, or gravel bars?
  Will the activity result in a shift in the main flow patterns?
- ❑ A planting plan which involves the use of native riparian plants, unless the applicant demonstrates it is not appropriate or not practicable.

Application is hereby made for a permit or permits to authorize the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete and accurate. I further certify that I possess the authority to undertake the proposed activities or am acting as the duly authorized agent of the applicant which is a **(check one of the following) commercial ☐, non-commercial ☐, or governmental ☒ entity.**

Signature of Applicant _____ Date: January 29, 2013

I hereby certify that Donald C Springer 385-468-6634 (Office) 801-330-6537 (Mobile) is acting as my agent on this project.

Agent's address and telephone number: 2001 S. State St., STE N3100, PO Box 144575, Salt Lake City, UT 84114-4575

Filing Instructions

Application supplements should be submitted on paper no larger than 11 x 17 inches or alternatively as PDF format electronic files. If more than one watercourse is to be altered as a result of the project, a separate application must be submitted for each watercourse. Application fees must be received by the Division of Water Rights at the time of application submission and must be either hand delivered or submitted through standard mail.

Application Processing Fees

Application fees are based on the type of entity applying for the proposed stream alteration project.

Commercial Entities:	$2000.00	per application processed.
Non-Commercial Entities:	$100.00	per application processed.
Governmental Entities:	$500.00	per application processed.

SECTION 31 37 00
RIPRAP OR ROCK LINING

This specification supplements APWA Standard Specification Section 31 37 00. In cases of conflict between this specification and APWA Section 31 37 00 this specification shall govern.

PART 1 GENERAL

1.1 GENERAL

A. This section covers furnishing and placing the granular filter and loose riprap materials in accordance with these specifications and in conformity with the lines, grades, and dimensions shown on the drawings or as directed by the ENGINEER.

1.2 REFERENCES

A. The latest edition of the following publications form a part of this specification to the extent referenced. The publications are referred to in the text by basic designation only.

B. American Society for Testing and Materials (ASTM)

ASTM C-127 Specific Gravity and Absorption of Coarse Aggregate.

ASTM C-535 Resistance to Degradation of Large-Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine.

1.3 SUBMITTALS

A. The following shall be submitted:

1. Certification from a certified independent laboratory that the riprap meets the material properties of this specification.
2. A sample of the riprap to be used for construction.

1.4 STORAGE OF MATERIALS

A. Materials shall be arranged and used in a manner to avoid excessive segregation and to prevent contamination with other materials.

PART 2 PRODUCTS

2.1 GRANULAR FILTER

A. Granular filter sources shall be approved by the ENGINEER prior to use.

B. Concrete masonry or concrete pavement may not be used for granular filter.

C. Granular Filter shall be well graded with additional gradation requirements as follows:

GRANULAR FILTER GRADATIONS

% Smaller Than Given Size By Weight	Size (Inches)
90-100	3
35-90	¾
0-30	No. 4
0-15	No. 16
0-3	No. 200

D. The CONTRACTOR shall be responsible for obtaining (by selective mining, crushing, screening, or some other method) drainage rock will meet the specified material requirements.

2.2 LOOSE RIPRAP

A. Riprap shall consist of quarry stone which is sound and durable against disintegration under conditions to be met in handling and placing, and is hard and tenacious and otherwise of suitable quality to ensure permanency in the specified kind of work.

B. Riprap sources shall be approved by the ENGINEER prior to use. Concrete masonry or concrete pavement may not be used for riprap. Riprap shall be well graded with additional gradation requirements for riprap as follows:

LOOSE RIPRAP GRADATIONS

Riprap Designation	%Smaller Than Given Size By Weight	(Inches)	D_{50}** (Inches)
Class I	70-100	12	
	50-70	9	6
	35-50	6	
	2-10	3	
Class II	70-100	15	
	50-70	12	9
	35-50	9	
	2-10	3	

Riprap Designation	%Smaller Than Given Size By Weight	(Inches)	D_{50}** (Inches)
Class III	70-100	20	
	50-70	16	12
	35-50	12	
	2-10	4	
Class IV	70-100	25	
	50-70	20	15
	35-50	15	
	2-10	5	
Class V	70-100	30	
	50-70	24	18
	35-50	18	
	2-10	6	
Class VI	70-100	35	
	50-70	28	21
	35-50	21	
	2-10	7	
Class VII	70-100	40	
	50-70	32	24
	35-50	24	
	2-10	8	

** D_{50} = Nominal particle size

C. All stones shall be angular (no rounded rock will be permitted), each piece having its greatest dimensions not greater than three times its least dimensions. All stone shall conform to the following test requirements of the American Society for Testing and Materials Standards:

	Requirements	ASTM Standard
Specific Gravity, minimum	2.60	C-127
Los Angeles Abrasion, maximum percent	40	C-535

D. The CONTRACTOR shall be responsible for obtaining (by selective mining, crushing, screening, or some other method) loose riprap that will meet the specified material requirements.

PART 3 – EXECUTION

3.1 GRANULAR FILTER

A. Prior to placement of granular filter, the subgrades to the granular filter shall be compacted and graded to the lines and grades shown on the drawings.

B. Granular filter shall generally be placed starting at the lowest elevations and working upward. The surface shall be leveled as necessary, to produce a reasonably uniform appearance and the required thickness.

3.2 LOOSE RIPRAP

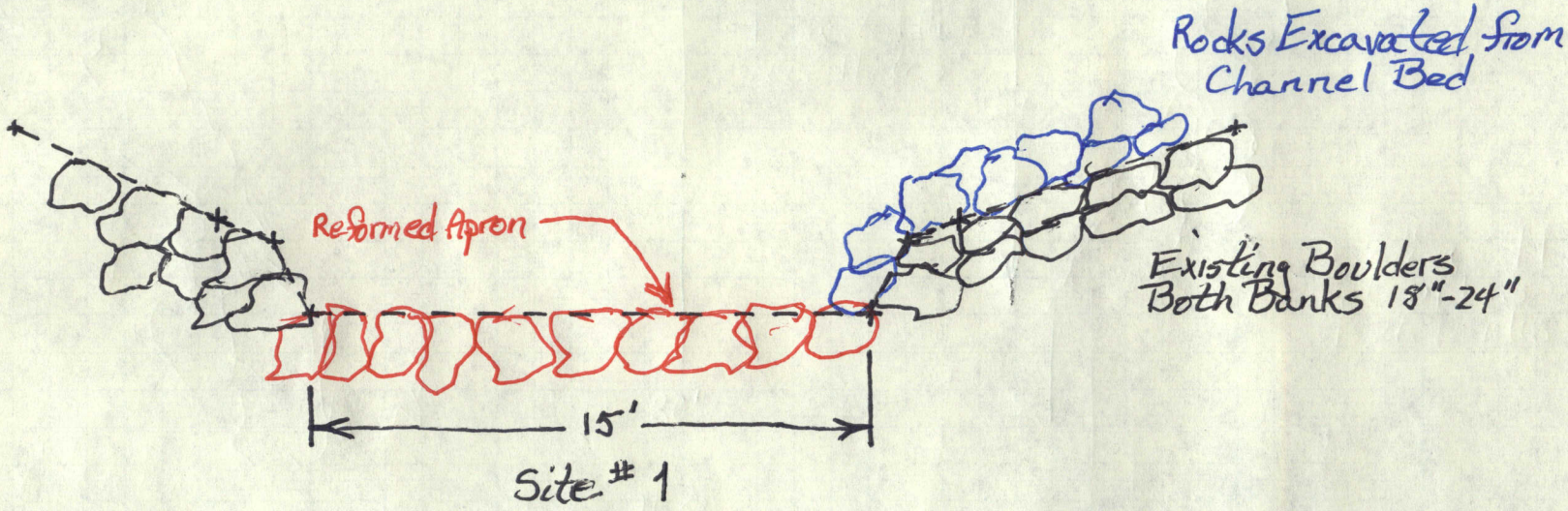
A. Prior to placement of loose riprap, the granular filter shall be placed and graded to the lines and grades shown on the drawings.

B. Riprap shall generally be placed starting at the lowest elevations and working upward. Riprap shall be placed to the minimum thickness designated on the drawings and shall be positioned in such a manner that will provide uniform distribution of the various sizes of stone and produce a well-keyed mass of rock with the least practical amount of void space. The surface shall be leveled as necessary, to produce a reasonably uniform appearance and the required thickness.

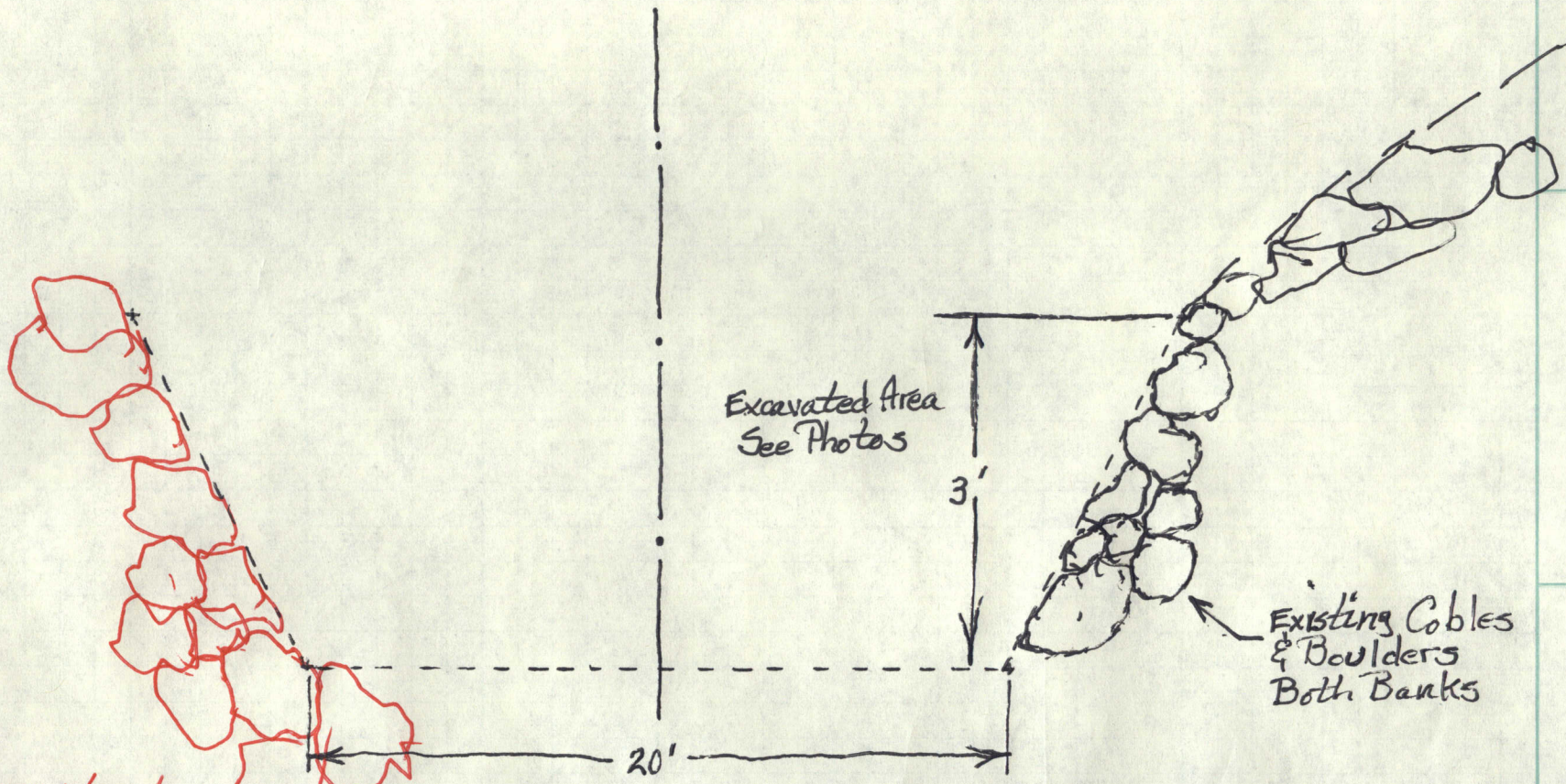
END OF SECTION

① Use mini-excavator to replace excavated Rock in channel Bottom forming Apron at Inlet.

② Add toe protection as needed 100' Downstream.



Site # 1



Site #2

① Use mini-excavator to place toe protection.

② Use existing Boulders that are 18" to 24" for placed protection & import new Angular Rock where necessary.


Site 1
100'
Site 1


Side 1


Site 1

Site 1

Site 2


Site 2


Site 2


Site2

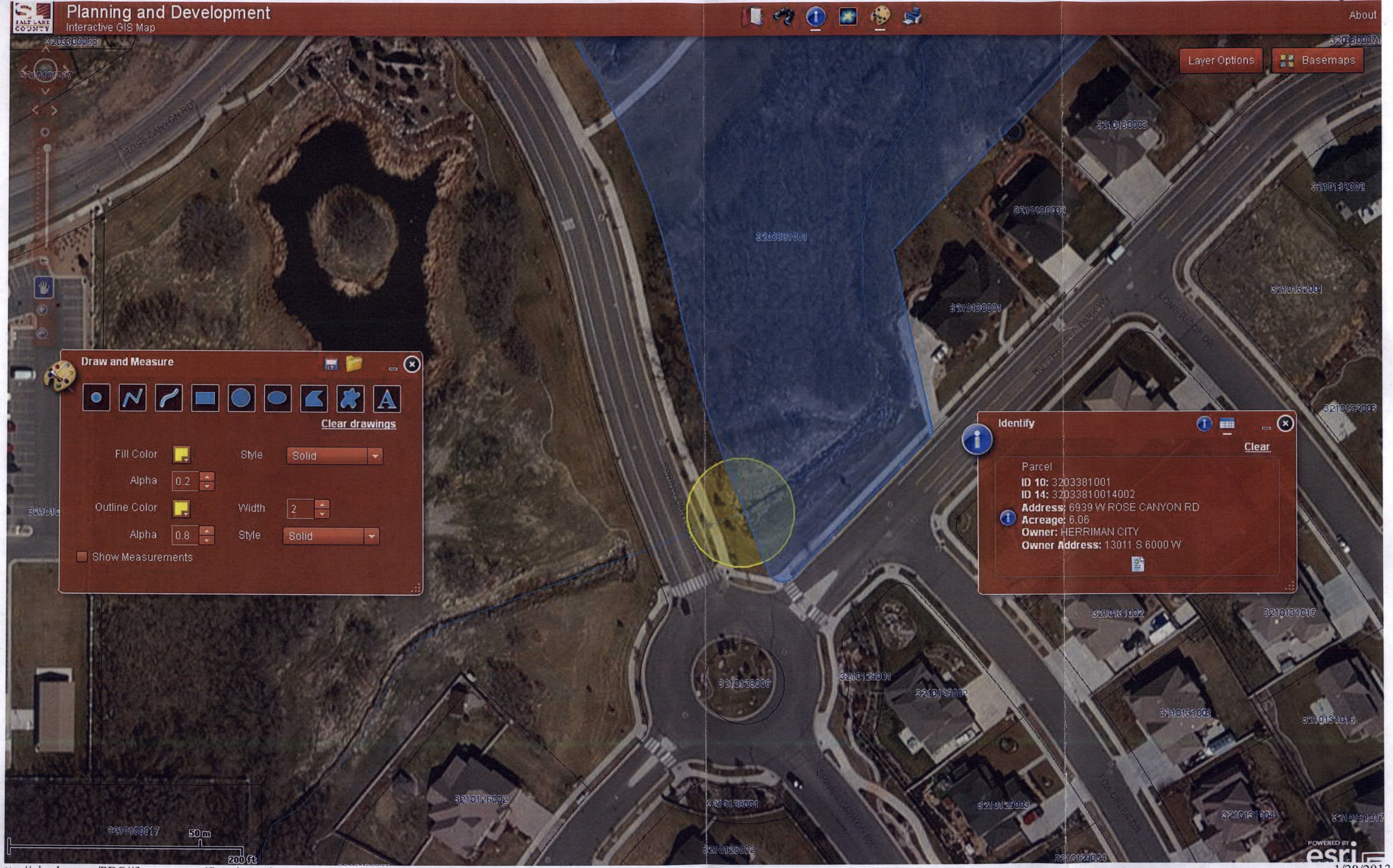
Google earth

feet 3000
meters 900

Google earth

feet 3000

km 1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ROSE CANYON RD
3203381001
Draw and Measure
Clear drawings
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Solid
Alpha
0.2
Outline Color
Width
2
Alpha
0.8
Style
Solid
Show Measurements
Identify
Clear
Parcel
ID 10: 3203381001
ID 14: 32033810014002
Address: 6939 W ROSE CANYON RD
Acreage: 6.06
Owner: HERRIMAN CITY
Owner Address: 13011 S 6000 W
50 m
200 ft
POWERED BY esri


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Alpha
0.2
Outline Color
Width
2
Alpha
0.8
Style
Solid
Show Measurements
Identify
Clear
Parcel
ID 10: 3202300060
ID 14: 32023000600000
Address: 6212 BUTTERFIELD PARK WY
Acreage: 40
Owner: TOWN OF HERRIMAN
Owner Address: 13011 S 6000 W
3202300060
3203400062
3203400063
3203400036
3203400037
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